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CIRCULAR No. 10.

United States Department of Agriculture,

SECTION OF FOREIGN MARKETS.

[Under the immediate supervision of the Secretary of Agriculture.]

COURSE OF WHEAT PRODUCTION AND EXPORTATION IN THE UNITED STATES, CANADA, ARGENTINA, URUGUAY, RUSSIA, AND BRITISH INDIA FROM 1880 TO 1896.

In view of the many requests for information regarding the quantity of wheat produced and exported by some of the principal countries contributing to the world's supply, such official statistics upon the subject as were available have been gathered together and are made the subject of the present circular. The countries treated of are the United States, Canada, Argentina, Uruguay, Russia, and India. The following table shows by quinquennial periods the average annual production of wheat in each of these countries, so far as reliable figures could be obtained, from 1881 to 1895, inclusive:

Average annual production of wheat, by quinquennial periods, in six of the principal wheat-exporting countries.

Countries.	Average annual product.		
	1881-1885.	1886-1890.	1891-1895.
United States.....	<i>Bushels.</i> 435,685,744	<i>Bushels.</i> 443,847,400	<i>Bushels.</i> 490,246,218
Canada.....	39,200,000	36,294,636	51,405,800
Argentina.....	a 13,000,000	22,300,000	61,600,000
Uruguay.....	(b)	(b)	6,143,000
Russia.....	c 224,106,611	233,400,988	301,406,600
India.....	c 269,721,362	245,657,238	224,909,600

a Annual average for the two years 1884-1885.
b No statistics available.

c Annual average for triennium 1883-1885.

The averages presented above show a very decided increase in the wheat production of the United States, Canada, Argentina, and Russia during the last fifteen years, and a similar growth would undoubtedly be shown for Uruguay were statistics obtainable for the entire period. India is the only one of the six countries which suffered a decline in production.

The figures given in the subjoined table show the average annual exports of wheat, including wheat flour, from each of the above-named countries during the quinquennial periods indicated. In preparing

this table the quantity of wheat flour exported was converted into its equivalent in grain at the rate of $4\frac{1}{2}$ bushels of wheat to a barrel of flour weighing 196 pounds, and then added to the exports of grain. The statistics quoted for Canada and Uruguay represent the net exports, i. e., the excess of exports over imports. The imports of wheat into the other four countries are so small that they are not taken into account. In Argentina, Uruguay, and Russia the commercial years coincide with the calendar years. In the United States and Canada they comprise the twelve months ending June 30, and in India the twelve months ending March 31. The figures given for the three last-mentioned countries are for the commercial years ending in the calendar years subsequent to those named. The table is as follows:

Average annual exports of wheat and wheat flour, expressed in bushels of grain, by quinquennial periods, from six of the principal wheat-exporting countries.

Countries.	Average annual exports.		
	1881-1885.	1886-1890.	1891-1895.
United States:	<i>Bushels.</i>	<i>Bushels.</i>	<i>Bushels.</i>
Wheat	83,361,016	64,987,221	101,021,444
Wheat flour	38,796,027	50,801,553	70,710,036
Total	122,157,043	115,788,774	171,731,480
Canada:			
Wheat	2,863,905	1,863,652	8,744,226
Wheat flour	42,313	662,743	1,452,375
Total	2,906,218	2,526,395	10,196,601
Argentina:			
Wheat	1,834,298	5,918,318	33,013,082
Wheat flour	180,820	328,340	1,604,299
Total	2,015,118	6,246,658	34,617,381
Uruguay:			
Wheat	<i>a</i> 42,986	<i>a</i> 159,947	1,046,920
Wheat flour	120,282	310,927	572,569
Total	77,296	150,980	1,619,489
Russia:			
Wheat	73,721,407	93,039,121	102,971,200
Wheat flour	2,468,366	2,297,241	2,610,417
Total	76,189,773	95,336,362	105,581,617
India:			
Wheat	34,352,261	30,440,072	27,747,751
Wheat flour	228,446	935,470	1,503,572
Total	34,580,707	31,375,542	29,251,323

a Net imports.

The foregoing tabular statement indicates in a striking manner the remarkable growth which has occurred since 1880 in the volume of wheat distributed by some of the principal wheat-exporting countries. The average yearly export of wheat, both grain and flour, from the United States during the three quinquennial periods from 1881 to 1895 increased about 40 per cent, and Russia, whose exports of wheat rank next to those of the United States in volume, made a gain nearly equal in rate. The exports of wheat from Canada, although rather unimportant when compared with the much greater shipments from the United States and Russia, show a growth which is proportionately even more rapid, the average net shipment per annum having more than

trebled since 1881-1886. The most striking growth in wheat exportation, however, is exhibited by the South American countries, Argentina and Uruguay. The average annual wheat exports of Argentina increased from about 2,000,000 bushels in the quinquennium 1881-1885 to nearly 35,000,000 bushels in 1891-1895, while in the same space of time Uruguay's net exports per annum advanced from about 77,000 bushels to more than 1,600,000 bushels. India alone of the six countries under consideration shows a diminished export trade, a natural result of declining production. The aggregate quantity of wheat exported from the six countries combined during the five-year period 1881-1885 averaged about 238,000,000 bushels per annum. In the quinquennium 1891-1895 the yearly average export amounted to about 352,000,000 bushels, or a total gain of 114,000,000 bushels.

To show in greater detail the course of wheat production and exportation in the United States, Canada, Argentina, Uruguay, Russia, and British India, a set of tables is appended giving official statistics, so far as available, as to the area of wheat and the quantity produced and exported each year since 1880. From these tables it will be seen that the maximum of both area and production in the United States was reached in 1891. Since that year there has been a considerable diminution in area and product, accompanied by an even greater falling off in the quantity of wheat exported, the total shipments of grain and flour during the fiscal year 1895-96 amounting to only 129,000,000 bushels as compared with 228,000,000 bushels in 1891-92. The exports of grain fell off much more rapidly than those of flour, the latter showing only a slight decrease during the five years.

The crop year 1891 was an unusual one in several of the great wheat-growing countries. Coincident with the largest wheat production ever recorded for the United States there was a partial or total failure throughout much of Europe. The Russian crop was exceedingly light and resulted the following year in greatly diminished exports. Since this temporary setback, however, Russia has more than regained the lost ground, and the last few years have witnessed a rapid growth in exportation as well as production. Canada, like the United States, produced her largest crop in 1891. Her net exports increased in the fiscal years 1892, 1893, and 1894, but have since declined. The exports of wheat from British India reached their maximum in 1891-92, the years subsequent showing a falling off which has greatly lessened India's importance as a contributor to the world's wheat supply. Her shipments during the past year (1895-96) amounted to only 20,000,000 bushels, as against 58,000,000 bushels in 1891-92. In Argentina and Uruguay the progress made in wheat raising during the last few years has been almost phenomenal. The Argentine crop increased from 36,000,000 bushels in 1891 to 75,000,000 bushels in 1895, and during the same period the remarkable gain of from 15,000,000 to 40,000,000 bushels (wheat and flour) was made in exportation. Uruguay's crop, which amounted to less than 3,000,000 bushels in 1891, advanced with such rapidity that in 1895 it was returned at about 10,000,000 bushels. In 1891 the imports into Uruguay exceeded the exports, but 1894, the latest year for which the trade returns are available, shows an excess of nearly 6,000,000 bushels (wheat and flour) in favor of the exports.

Wheat area, production, and exportation of the United States, Canada, Argentina, Uruguay, Russia, and British India, from 1880 to 1896, according to the official statistics of the several countries.

UNITED STATES.

Calendar years.	Area.	Product.	Years ending June 30—	Exports.	
				Grain.	Flour.
	<i>Acres.</i>	<i>Bushels.</i>		<i>Bushels.</i>	<i>Pounds.</i>
1880	37,986,717	498,549,868	1881	150,712,509	1,557,666,096
1881	37,709,020	383,280,090	1882	95,962,407	1,160,127,920
1882	37,067,194	504,185,470	1883	107,352,342	1,804,652,752
1883	36,455,593	421,086,160	1884	70,450,007	1,793,891,960
1884	39,475,885	512,765,000	1885	84,935,183	2,087,036,420
1885	34,189,246	357,112,000	1886	58,105,141	1,603,203,756
Annual average, 1881-1885	36,979,388	435,685,744	Annual average, 1882-1886	83,361,016	1,689,782,562
1886	36,806,184	457,218,000	1887	102,330,395	2,257,616,004
1887	37,641,783	456,329,000	1888	66,279,993	2,345,365,204
1888	37,336,138	415,868,000	1889	46,635,624	1,837,471,188
1889	38,123,859	490,560,000	1890	54,558,144	2,397,865,372
1890	36,087,154	399,262,000	1891	55,131,948	2,225,131,944
Annual average, 1886-1890	37,199,024	443,847,400	Annual average, 1887-1891	64,987,221	2,212,689,942
1891	39,916,897	611,780,000	1892	159,118,721	2,978,586,716
1892	38,554,430	515,949,000	1893	117,693,859	3,257,586,444
1893	34,629,418	396,131,725	1894	88,631,650	3,304,468,468
1894	34,882,436	460,267,416	1895	76,651,496	2,992,702,832
1895	34,047,332	467,102,947	1896	63,011,494	2,865,730,308
Annual average, 1891-1895	36,406,103	490,246,218	Annual average, 1892-1896	101,021,444	3,079,814,954

CANADA.

Calendar years.	Area.	a Product.	Years ending June 30—	Net exports.	
				Grain.	Flour.
	<i>Acres.</i>	<i>Bushels.</i>		<i>Bushels.</i>	<i>Pounds.</i>
1880	2,342,355	33,369,949	1881	1,752,590	51,944,312
1881	(b)	25,000,000	1882	3,502,313	60,251,184
1882	(b)	50,000,000	1883	5,772,161	44,077,460
1883	(b)	30,000,000	1884	c 583,254	c 55,031,508
1884	(b)	48,000,000	1885	2,295,662	c 79,283,568
1885	(b)	43,000,000	1886	3,332,644	39,201,176
Annual average, 1881-1885		39,200,000	Annual average, 1882-1886	2,863,905	1,842,949
1886	(b)	40,000,000	1887	5,576,201	69,932,604
1887	(b)	37,000,000	1888	1,977,977	56,976,416
1888	(b)	31,000,000	1889	60,864	c 24,110,156
1889	(b)	30,000,000	1890	c 264,154	c 6,957,804
1890	2,723,884	43,473,182	1891	1,967,870	48,489,616
Annual average, 1886-1890		36,294,636	Annual average, 1887-1891	1,863,652	28,866,135
1891	(b)	62,635,000	1892	8,609,459	67,464,572
1892	(b)	49,701,000	1893	8,851,777	74,103,092
1893	(b)	42,650,000	1894	9,418,528	76,863,360
1894	(b)	44,583,000	1895	8,097,141	34,604,976
1895	(b)	57,460,000	1896	(b)	(b)
Annual average, 1891-1895		51,405,800	Annual average, 1892-1895	8,744,226	63,259,000

a As no returns of the wheat crop in some of the minor provinces from 1881 to 1889, inclusive, were published, the totals here given for those years were partly estimated.

b No statistics available.

c Net imports.

Wheat area, production, and exportation of the United States, Canada, Argentina, Uruguay, Russia, and British India, from 1880 to 1896, according to the official statistics of the several countries—Continued.

ARGENTINA.

Calendar years.	Area. (a)	Product. (a)	Exports.	
			Grain.	Flour.
	<i>Acres.</i> (b)	<i>Bushels.</i> (b)	<i>Bushels.</i> 42,829	<i>Pounds.</i> 3,137,776
1880.....				
1881.....	(b)	(b)	5,772	2,838,193
1882.....	(b)	(b)	62,658	1,209,838
1883.....	(b)	(b)	2,232,329	10,679,931
1884.....	(b)	12,000,000	3,986,623	8,232,834
1885.....	(b)	14,000,000	2,884,109	16,417,826
Annual average, 1881-1885.....		c 13,000,000	1,834,298	7,875,724
1886.....	(b)	14,000,000	1,391,265	11,601,095
1887.....	(b)	14,000,000	8,739,987	11,907,256
1888.....	2,036,000	11,500,000	6,574,431	14,092,778
1889.....	(b)	40,000,000	837,982	7,409,387
1890.....	2,700,000	32,000,000	12,047,924	26,494,607
Annual average, 1886-1890.....		22,300,000	5,918,318	14,301,025
1891.....	3,300,000	36,000,000	14,534,141	15,465,269
1892.....	4,000,000	57,000,000	17,273,565	41,554,505
1893.....	4,600,000	80,000,000	37,042,650	83,600,637
1894.....	5,000,000	60,000,000	59,094,067	89,855,087
1895.....	5,300,000	75,000,000	37,120,987	118,905,101
Annual average, 1891-1895.....	4,400,000	61,600,000	33,013,082	69,876,120

a There are no official statistics as to the wheat area and production of Argentina. The figures here given are commercial estimates, and must be regarded as mere approximations.

b No statistics available.

c Annual average for the two years 1884-1885.

URUGUAY.

Calendar years.	Area.	Product.	Net exports.	
			Grain.	Flour.
	<i>Acres.</i> (a)	<i>Bushels.</i> (a)	<i>Bushels.</i> b 115,264	<i>Pounds.</i> 1,624,700
1880.....				
1881.....	(a)	(a)	83,382	4,744,811
1882.....	(a)	(a)	b 318,085	453,360
1883.....	(a)	(a)	b 41,048	5,008,414
1884.....	(a)	(a)	b 12,364	2,427,578
1885.....	(a)	(a)	73,183	13,560,561
Annual average, 1881-1885.....			b 42,986	5,238,945
1886.....	(a)	(a)	78,221	26,265,913
1887.....	(a)	(a)	99,857	19,093,476
1888.....	(a)	(a)	372,848	34,753,239
1889.....	(a)	(a)	b 1,291,379	b 6,365,846
1890.....	(a)	(a)	b 59,283	b 6,033,889
Annual average, 1886-1890.....			b 159,947	13,542,579
1891.....	(a)	2,805,000	b 29,481	b 219,466
1892.....	393,430	3,292,000	b 41,757	b 66,739
1893.....	512,466	5,703,000	190,306	25,383,803
1894.....	503,580	8,915,000	4,068,614	74,656,583
1895.....	(a)	10,000,000	(a)	(a)
Annual average, 1891-1895.....	c 469,825	6,143,000	d 1,046,920	d 24,938,545

a No statistics available.

b Net imports.

c Annual average for the triennium 1892-1894.

d Annual average for the quadrennium 1891-1894.

Wheat area, production, and exportation of the United States, Canada, Argentina, Uruguay, Russia, and British India, from 1880 to 1896, according to the official statistics of the several countries—Continued.

RUSSIA (INCLUDING POLAND).

Calendar years.	Area.	Product.	Exports.	
			Grain.	Flour. (a)
	<i>Acres.</i> (b)	<i>Bushels.</i> (b)	<i>Bushels.</i> 36,553,741	<i>Pounds.</i> 92,165,845
1880.....				
1881.....	(b)	(b)	48,972,597	70,958,434
1882.....	(b)	(b)	76,373,532	101,133,373
1883.....	(b)	226,792,568	83,777,096	85,948,940
1884.....	(b)	267,442,864	67,725,676	98,949,620
1885.....	(b)	178,084,400	91,758,136	180,565,000
Annual average, 1880-1885	c28,879,231	d224,106,611	73,721,407	107,511,073
1886.....	(b)	163,455,273	51,614,696	131,451,320
1887.....	(b)	278,697,917	77,797,272	135,062,620
1888.....	(b)	313,935,995	127,445,302	97,320,851
1889.....	(b)	197,883,931	108,382,491	78,059,947
1890.....	(b)	213,031,826	99,955,844	58,393,313
Annual average, 1886-1890		233,400,988	93,039,121	100,057,610
1891.....	(b)	181,450,000	105,993,000	111,119,701
1892.....	(b)	266,055,000	49,022,000	77,931,854
1893.....	32,215,000	393,454,000	93,991,000	108,158,435
1894.....	32,856,000	356,416,000	123,139,000	128,201,150
1895.....	33,064,541	309,658,000	142,711,000	143,079,706
Annual average, 1891-1895	e32,711,847	301,406,600	102,971,200	113,698,169

a The figures for the years prior to 1888 represent the exports of flour of all cereals, wheat flour alone probably constituting somewhat more than one-half of the total.

b No statistics available.

c Annual average for the five years 1883-1887.

d Annual average for the triennium 1883-1885.

e Annual average for the triennium 1893-1895.

BRITISH INDIA.

Years ending March 31—	Area.	Product.	Exports.	
			Grain.	Flour.
	<i>Acres.</i> (a)	<i>Bushels.</i> (a)	<i>Bushels.</i> 13,896,166	<i>Pounds.</i>
1881.....				
1882.....	(a)	(a)	37,148,543	5,107,317
1883.....	(a)	(a)	26,495,024	6,816,048
1884.....	(a)	251,690,880	39,202,636	7,890,854
1885.....	27,820,223	299,155,584	29,586,445	11,057,126
1886.....	27,405,742	258,317,622	39,328,658	18,879,201
Annual average, 1882-1886		b269,721,362	34,352,261	9,950,109
1887.....	26,735,484	238,585,947	41,558,765	35,744,069
1888.....	26,854,882	266,882,112	25,271,249	36,082,348
1889.....	25,911,700	237,522,133	32,874,628	36,290,371
1890.....	24,773,000	228,592,000	25,764,123	48,572,042
1891.....	26,424,000	256,704,000	26,731,593	47,035,853
Annual average, 1887-1891	26,139,813	245,657,238	30,440,072	40,744,937
1892.....	24,452,000	206,640,000	56,566,393	61,028,205
1893.....	26,429,000	268,539,000	27,950,446	57,940,360
1894.....	24,370,000	232,944,000	22,692,229	68,446,446
1895.....	25,994,155	234,428,000	12,857,210	65,916,003
1896.....	21,777,429	181,997,000	18,672,479	74,113,622
Annual average, 1892-1896	24,604,517	224,909,600	27,747,751	65,488,927

a No statistics available.

b Annual average for the triennium 1884-1886

The publications heretofore issued by the Section of Foreign Markets are as follows:

- Bulletin No. 1—Great Britain and Ireland.
 - Bulletin No. 2—The German Empire.
 - Bulletin No. 3—France.
 - Bulletin No. 4—Canada.
 - Bulletin No. 5—Netherlands.
 - Bulletin No. 6—Belgium.
 - Bulletin No. 7—Norway.
 - Bulletin No. 8—Sweden.
 - Circular No. 1—Peaches and Other Fruits in England.
 - Circular No. 2—American Dried Apples in the German Empire.
 - Circular No. 3—Imports and Exports for 1893 and 1894.
 - Circular No. 4—An Example for American Farmers and Dairymen.
 - Circular No. 5—The Treaty of Shimonoseki between China and Japan of April 17, 1895, and Our Possibility of Trade with Those Countries.
 - Circular No. 6—Imports and Exports for 1893, 1894, and 1895.
 - Circular No. 7—Extension of Markets for American Feed Stuffs.
 - Circular No. 8—The Manchester District of England as a Market for American Products.
 - Circular No. 9—Imports and Exports for 1893, 1894, 1895, and 1896.
- WASHINGTON, D. C., *October 23, 1896.*

METRIC



SYSTEM

ELEMENTS OF THE SYSTEM.

Length.	Surface.	Capacity.	Weight.	Notation.
			Metric ton.	1,000,000
			Quintal.	100,000
Myriameter.			Myriagram.	10,000
Kilometer.		Kiloliter.	Kilogram.	1,000
Hectometer.	Hectare.	Hectoliter.	Hectogram.	100
Decameter.	Decare.	Decaliter.	Decagram.	10
METER.	ARE.	LITER.	GRAM.	1
Decimeter.		Deciliter.	Decigram.	0.1
Centimeter.	Centiare.	Centiliter.	Centigram.	0.01
Millimeter.		Milliliter.	Milligram.	0.001

EQUIVALENTS OF CUSTOMARY AND METRIC WEIGHTS AND MEASURES.

1 kilometer ==	0.62137 mile.	1 mile ==	1.60935 kilometers.
1 meter ==	3.28083 feet.	1 yard ==	0.914402 meter.
1 centimeter ==	0.3937 inch.	1 foot ==	0.304801 meter.
1 hectare ==	2.471 acres.	1 inch ==	25.4001 millimeters.
1 are ==	119.6 square yards.	1 square mile ==	2.59 square kilometers.
1 metric ton ==	2,204.62 pounds.	1 acre ==	0.4047 hectare.
1 kilogram ==	2.20462 pounds.	1 square foot ==	9.29 square decimeters
1 gram ==	15.43236 grains.	1 pound ==	0.45359 kilogram.
1 hectoliter ==	2.8377 bushels.	1 grain ==	64.7989 milligrams.
1 hectoliter ==	26.417 gallons.	1 bushel ==	0.35239 hectoliter.
1 liter ==	1.0567 quarts.	1 gallon ==	3.78543 liters.
1 stere ==	1.308 cubic yards.	1 cubic foot ==	0.02832 cubic meter.

DIFFERENCE BETWEEN UNITED STATES AND BRITISH MEASURES.

- 1 Imperial bushel equals 2,218.192 cubic inches.
- 1 Winchester bushel (used in United States) equals 2,150.42 cubic inches.
- 1 Imperial gallon equals 277.274 cubic inches.
- 1 wine gallon (as used in United States) equals 231 cubic inches

RULES.

1. To reduce Imperial bushels to Winchester bushels, multiply the number of Imperial bushels by 1.03152.
2. To reduce Winchester bushels to Imperial bushels, multiply the number of Winchester bushels by 0.969447.
3. To reduce Imperial gallons to United States wine gallons, multiply the number of Imperial gallons by 1.20032.
4. To reduce United States wine gallons to Imperial gallons, multiply the number of wine gallons by 0.833111.